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ABSTRACT

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(R&D Report 6189)

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Students' Paths Through Academic Work

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Abstract

This study examined how students perceived and responded to academic task structures in six junior high school classes. Two classes in math, science, and English were observed for 6 weeks in order to identify how teachers organized and conducted activities and academic work. In each class, samples of student work were examined and student progress was tracked. Also, from five to seven students in each class were interviewed. Results indicated varying degrees of student understanding of the task systems. For the most part, students regarded understanding and good performance as important, rather than just completion of assignments. Variations in participation rates, performance levels, and other responses to academic tasks are described.

Students' Paths Through Academic Work

Recent research on cognitive processing has provided insights into how students perceive instruction and process information (see Marx, 1983, and Weinstein, 1983, for reviews of recent research). One point which Marx (1983), Posner (1982), and others make is that in order to understand the learning processes of students, we must consider more than just the tasks in which students are engaging. We must also understand, "The students' interpretation of the tasks and their subsequent task engagement" (Posner, 1982, p. 343).

Several researchers have found that how students perceive the task environment has an impact on the efforts they will make to be successful. Doyle (1980) noted that "The allowable routes to answers affect the nature of the task that is accomplished. If, for example, a student can produce an acceptable answer by copying the work of another student, then the student will learn to copy an answer rather than the operations intended by the teacher" (p. 95). Smith and Feathers (1983) found that secondary students discovered that reading the textbook was not necessary for completing assignments. Answers could be obtained by asking another student, copying answers from another student or filling in answers during discussions. In addition, students reported they could get sufficient information for tests by simply listening to the teacher, who covered text material very thoroughly. Smith and Feathers concluded that "The product was more important than the process" (p. 265). Likewise, Anderson (1983) found that first grade students developed strategies (e.g., random guessing, asking other students) which enabled them to complete their work on time but defeated the intended purpose of the workbook pages.

The present study was focused on task systems in junior high science, English, and math classes (see Doyle, Sanford, Clements, French, & Emmer, 1983). This paper contains an analysis of student perceptions of these task systems and the strategies students used to accomplish the work.

Methodology and Data Collection

Data were collected during the spring of 1983 in two classes in each of three subject areas. None of these classes was noted as remedial or accelerated; that is, they were all using grade-level materials. Although a substantial range of academic achievement existed within each class, some restriction occurred. In each subject, district policy was to assign higher achieving students (generally 90th + percentile) to accelerated sections. Also, in English and math, lower achieving students (around the 25th percentile or lower) were taught in "basic" sections. Teachers in the study were chosen because of evidence of effectiveness in teaching the curriculum, classroom management skill and use of a variety of academic tasks (for additional information, see Doyle et al., 1983).

Sample Selection

School district instructional coordinators were asked to nominate English and mathematics teachers who met our stated guidelines. After the nominations were received, teachers in mathematics and English were screened for empirical evidence of effectiveness in terms of class mean achievement gain that was consistently well above average during the previous 2 years. The school district's research office provided the names of two mathematics and three English teachers who were

subsequently observed and interviewed regarding their program of academic work.

Because a comparable measure of class achievement gain in junior high science classes was not available, nominations of effective teachers were solicited from two sources in addition to the science curriculum coordinator: principals of all junior high schools in the District and the University supervisor of the student teaching program in secondary science. Nine teachers were nominated by more than one source and were subsequently observed and interviewed regarding their program of academic work.

Two teachers in each subject were chosen because of teaching and management effectiveness and the variety of academic tasks they used, as well as feasibility of observation schedules and contrasts between teachers' approaches. One average ability class per teacher was selected for extensive observation. The classes consisted of two eighth-grade science classes, one seventh- and one eighth-grade English class, and one seventh- and one eighth-grade math class. The students in the classes constituted the student sample for the study. Parents' permissions were obtained to examine students completed and graded work and to interview them. Six to nine students from each class were selected for interviews after the end of the 6-week grading period. Students for these interviews were selected to provide several levels of success in accomplishing academic tasks and of participation in lessons and other interactions with the teacher.

Data Collection

Observations. Each teacher was observed by one staff member every day during the fourth 6-week grading period, for a total of

approximately 30 observations on consecutive school days. During each observation, the observer generated a narrative description of classroom events and circumstances affecting classroom tasks. Information about teacher directions, activities, resources students could use, student questions and student responses, grading, time use, and work flow was included in each narrative. In addition, copies of materials used by students were obtained.

Graded student work. Observers examined graded student work to ascertain what the students did on assignments and how the teacher evaluated them. In particular, observers looked for:

1. The correspondence between stated task requirements and the final products.

2. Patterns of students' errors or areas of difficulty.

3 The focus and general character of teacher comments.

4. The grades students received.

5. Any correspondence between prompts or models given by the teacher in class and the content of student products.

Observers recorded student grades and written teacher comments and made copies of important assignments.

Teacher interviews. After the observations were completed, all teachers were interviewed concerning the task system, grading procedures, and academic goals for the class. At the interview, observers obtained copies of grade records for the class and an explanation of how final course grades were computed.

Student interviews. The student interviews were designed to provide a perspective on how junior high students view academic work and its accomplishment. The observer in each class selected six to nine

students for interviews. Students who were of potential interest were those who: (a) frequently solicited information from the teacher which served to clarify or alter the task; (b) were consistently successful in accomplishing work; (c) did not play active roles in classroom interaction but accomplished work successfully; (d) appeared, whether of high or low ability, to have difficulty in doing the work; or (e) appeared to accomplish tasks through strategies other than what was expected or intended by the teacher.

Students were interviewed individually after the grading period was over to avoid disruptions in the natural flow of academic work in the classes. Students were questioned about the following themes:

1. Was the work in this class easy or difficult? Why?

2. Do you usually understand the work you are assigned? What does the teacher do to help you understand? What do you do if you are confused?

3. Do you usually have enough time to do your work?

4. Which assignments this past 6 weeks were most important? Least important? How did you know this?

5. What was your grade for the 6-week period based on?

6. What does it take to do well in this class?

7. Do you often participate (talk) during class discussions in this class? Why or why not? Do you think it is important to participate in this class?

In addition, students were asked questions about some specific tasks they did in class. Interviews lasted about 15 to 20 minutes and took place in a room near to the classroom.

Data Analysis

Task analyses. Once observations were completed, observer/analysts began a detailed analysis of the tasks seen in their assigned teachers' classes. Information obtained from in-class observations, instructional materials, student products, and formal and informal interviews with teachers and students were used to produce extensive descriptions of each observed task. Tasks which involved higher cognitive operations were given particular attention. For each task the following information was described:

1. Time devoted to introducing and working on the products and related assignments.

2. Assignment requirements, as presented by the teacher or in response to student questions.

3. Prompts or other resources made available to students when working on the product.

4. Accountability, or grading policies, including those officially stated and grades actually given.

5. Process, or what actually happened.

6. Cognitive demands required to complete the task.

Teacher/task summaries. After describing the tasks seen in a teacher's class, each observer/analyst formulated a general description of the task system seen in his/her class. Included in this description was information concerning what and how content was presented, the nature of the work students completed, and some of the management or content issues that appeared to be salient in each class.

Student case studies. Based on information in narratives, task analyses, and student interviews, several students in each class were selected to be the focus of case studies tracing student progress

through the task system in their class and illustrating effects students can have on accomplishment and management of tasks in classrooms. To complete a case study, analysts searched narratives for information about interactions involving the target student. Whenever data were available, the student's performance on each task was considered in light of performance on antecedent tasks, classroom interaction involving the student, content instruction related to specific aspects of the student's performance, and comments in the interview. Amount of information about students varied from class to class and for different students.

Additional student analyses. All of the student interviews were read, and information concerning perceptions of the task systems was summarized. Additional information concerning student ability level, patterns of participation, and success on tasks was obtained from observer/analysts.

Classroom narratives, teacher interviews, task summaries, and student interviews (when available) were used to produce summaries for students for whom case studies were not available.

Results

Student paths through academic work are explored from two standpoints: (a) what the students reported in their interviews, and (b) what was observed in the classroom. Aspects of students' perceptions of the task systems that are considered include: (a) what it takes to do well in the class, (b) tasks that contribute most to a grade, (c) the importance of participation in class discussions, (d) what the teacher does to help students understand, and (e) the value of working with other students. Classroom observations provided

information on (a) how teachers maintained high levels of student cooperation and engagement, (b) the extent to which students completed tasks, and (c) the extent to which students volunteered to participate in class.

Student Perceptions

To examine students' conceptions of the task systems, responses to several of the interview questions were summarized. One issue of interest was the degree to which students perceived a need to understand or comprehend content as opposed merely to completing assignments. Other research (e.g., Anderson, 1981) had suggested that younger children tend to view tasks as "things to get done" rather than in terms of learning or understanding. During the interview students were asked what they thought was needed to do well in the class. In addition, a probe about what was needed to make good grades was frequently used. Responses were classified into the categories shown in Table 1. In most classes, students responded that it was important to complete assignments. However, in all classes most students also indicated that characteristics such as understanding the material, listening carefully or paying attention, and studying hard were central aspects of doing well. In two classes (one English and one math) numerous students believed that behavior characteristics (e.g., following the rules, "minding your own business") were important. Apparently the students' general perceptions of what was needed to do well were broader than just completing assignments. In particular, their conception included an emphasis on comprehension that likely reflected the teachers' holding the students accountable for understanding the material. The variability among students, both within and between classes is also

noteworthy. It seems reasonable that student perceptions of this aspect of tasks must depend on differences between classes in task structures and information about them, as well as on individual differences in students' learning histories and selective processing and retention of information.

A second aspect of the students' comprehension of the task system is the degree to which they understood which tasks were most important for their course grade. Students were asked which components were most important, and probes were used to obtain a thorough description. Student responses were classified on the basis of the degree of student understanding (Full: named all major components and understood their relative importance; Partial: named some but not all major components; Little or none: could not identify what was important or identified minor tasks as major). Classification of students is shown in Table 2. Nearly all the students had at least partial understanding of what the important tasks were in the classes. The exceptions occurred mainly in one English class. In this class a complex task system was in effect, with many major and minor tasks. The three students who were judged to have little or no comprehension incorrectly identified some minor tasks as the main ones and did not describe any of the major tasks as important. On the whole, however, students were able to sort out the important from the relatively less important. This finding was consistent with results described by Morine-Dershimer (1976) and Leinhardt (1983) who also found that students were very aware of the evaluative dimensions of their classes.

Most of the teachers in the study used recitation type activities, especially when checking assignments or presenting information to

monitor comprehension and to provide help to students who needed it. Students in five classes were asked why it was important to participate in these class discussions. Comments of students who answered this question are summarized in Table 3. Most of the students noted that it was important to participate because it helped one to learn or understand the content. Many students noted that participation was important because it contributed to their grade, but the lower ability students noted this more frequently than the higher ability students. Higher ability students more often noted that participation was important to show the teacher they knew the answer. The lack of this type of comment by lower ability students may reflect their insecurity about answering aloud because they might give a wrong answer or receive criticism from their peers (Potter, 1974).

In the interview students were also asked what their teachers did to help them understand what to do on assignments. Comments clustered in the following areas (see Table 4):

1. The teacher explained the content well.
2. The teacher gave students help or provided answers to their questions.
3. The teacher repeated information.
4. The teacher gave numerous examples.
5. The teacher made them take notes.
6. The teacher made the content seem fun.

In general students seemed satisfied with the way their teachers presented information and provided help when needed.

Students in the six classes were allowed to work together in varying degrees. In the English and math classes students were usually

expected to complete tasks by themselves without consulting other students. If help was needed the teacher provided it. In one math class the teacher sometimes assigned or allowed individual students to help students who had been absent or needed extra help. In one English class, students were expected to have a peer examine writing assignments to identify errors or areas which could be improved. With one exception all of the students interviewed in that class felt that "peer editing" was helpful because the peer could find errors that the writer missed. The one exception, an average-ability female, said that peer editing was not especially helpful because the peer did not know what the teacher expected the final product to look like.

In the two science classes, students were expected to work together in groups of two to 10 students to complete lab tasks. Although students were expected to write their own lab reports, students in one class were allowed to share information. They were, however, told not to copy. In both classes, all students but one said that working with other students was helpful. The reasons mentioned most often were:

1. Corrective feedback from other students. Students mentioned that the lab partner or another group member could tell him/her if they were right or wrong.

2. Social benefits. Students said that it was interesting to know what other people think; "It's good to know that you are not the only one who doesn't understand;" and if one student had a bad day, the rest of the group could cover for him/her.

3. Efficiency. Students also mentioned that working with other students saved time and was necessary because of the limited availability of equipment.

The one student who did not think working with other students was always helpful was a high-ability student in the science class where students were expected to work together on most tasks. She noted that some students ended up doing all the work while others copied the answers. She evidently felt a certain amount of peer pressure to provide answers, but felt exploited. In her interview this student said:

> Like Bev behind me and like Trudy and all the rest of them back there, they like for me to give them answers, but I can't refuse them! Because that makes me feel dumb, and it makes me feel dumb giving them to them.

She usually provided answers to these students as she noted with regard to lab tasks:

> Because like when we have to do labs with the other two up front and my partner, I get an answer and they don't know. Most of the time they copy off my paper and I don't like that. Sometimes I get mad. I don't show it, but I get mad a lot.

Only one other student, a high-middle-ability student in the other science class, showed any reluctance to share answers in lab work. He noted that students were

> . . . not really supposed to help each other on the answers or show each other how we either went wrong or whatever. . . . We do the experiments and then the questions are supposed to be pretty much on our own.

Classroom Instructional Behaviors

In general these six classes were characterized by high levels of task engagement and student cooperation. Very little inappropriate student behavior occurred and what did was shortlived and not generally disruptive. Students worked on a number of assignments, and although completion rates varied, nearly all of the students did a considerable amount of work. This was expected to some extent because of teacher

selection. What was not expected was the apparent acceptance by the students of the task systems, the large amounts of work done, and the lack of direct student impact on (or attempts to affect) the task systems. Task summaries from all of the classes revealed few (if any) attempts by students to change task requirements or obtain additional information, models or examples to make the task easier. There are several possible reasons for this.

In general teachers in this study were well liked by the students and had a great deal of credibility. In most of the student interviews, students talked about how good their teachers were--not how they disliked the work. For instance, one boy reported that his teacher "is a better teacher than any other teacher in our school, just about. She's probably the best teacher in the district, maybe the state." Generally, students seemed to "buy into" the task system and generally took it seriously.

These teachers appeared to be very clear in presenting task requirements and making sure students had the information they needed to do well. The majority of the tasks observed were not very complex or ambiguous. As a result not much time was needed to give procedural directions or to make clear what the final product should look like. Tasks that were more complex and/or ambiguous were usually described in more detail and there were more resources provided to promote student success (e.g., several chances to hand in paragraphs to get feedback before the final due date). Since the task requirements were usually clear and/or there were sufficient resources, there was little opportunity for student complaints or attempts to subvert the task.

Another possible reason for the lack of student impact on task requirements is that these teachers had planned their task systems to meet the needs of students of varying ability levels. In their choice of tasks, methods of instruction, and resources provided, these teachers seemed to have made attempts to get everyone through the task system. In general, uncooperative or nonparticipating students were not particularly visible, perhaps because of the adjustments teachers had made throughout the year to keep all students involved. A description of some of the adjustments made for differing ability levels follows.

For the most part all students were expected to complete the same tasks in the classes observed. However, several different ways of dealing with varying ability levels were seen. In one science class students were expected to work together and help each other obtain answers to all tasks except for tests and a Science Fair project. The teacher believed the students were good resources for each other and that lower ability students could get help from someone other than the teacher. In the other science class, lower ability students were expected to complete the same set of core activities as the rest of the students. Higher ability and more motivated students were expected to complete extension assignments which would contribute to a higher grade. Lower ability students were helped extensively by the teacher in a variety of ways, since she required them to complete some fairly complex tasks. Frequently the teacher would discuss tasks with these students individually. She also provided instruction to a group of students who had fallen behind the rest of the class. The teacher attempted to pair lower ability students with more capable students, but absences and

failure to adequately complete written components sometimes left some lower ability students in need of extra explanation and/or supervision.

In both English classes, very little alteration of tasks was made for varying ability levels. In one English class there was a lower ability spelling group which did the same types of tasks with a different set of words. These students sometimes met with the teacher or an aide at a small table in the room. In addition, lower ability students were not expected to write as long a journal entry as the rest of the class. Both teachers used oral recitation activities frequently and worked with individuals needing help during these drills. One teacher worked quite extensively with individual students having trouble during these drills, while the rest of the class watched.

In one math class all students completed the same tasks, but students needing extra help were invited on several occasions to meet with the teacher at a table at the front of the room. Because this was "optional" students could decline as did a low average-ability student once during the observations. In addition, this teacher attempted to call on every student during recitation. When students had difficulty providing a correct response, prompts or explanations were provided. In her interview the teacher noted that she "stayed" with students, helping them to obtain the correct answer. Students probably learned that she was not likely to ask another student, and thus that they needed to comprehend the material.

The other math teacher usually required students to complete several seatwork activities each class period while she circulated, checking several problems of each student and working with individuals having problems. During recitations or short content presentations she

called on high ability students to provide information and questioned low ability students to monitor their understanding. When several students encountered difficulties, she reviewed the content for the whole class. On a number of occasions this math teacher provided differentiated assignments for lower ability students. Because of her focus on mastery of basic skills, she attempted to provide appropriate tasks for students needing help in particular areas that the rest of the class had "mastered." Her policy was to not count tasks until students showed some mastery of the skill, hence a student might be given tasks on subtracting fractions for several days in a row, while the rest of the class worked on another topic. The teacher noted in her interview that she preferred to provide assignments at a level these students might be able to do because often when she tried to keep them with the rest of the class, they became frustrated when unable to do the work and usually got into trouble. This math teacher also provided self-paced algebra work books for some of the higher ability students to use when their tasks were complete. This was in response to their complaints that the class was moving too slowly. The teacher provided evidence that these students needed to continue working with the class on the current topic but also responded to their desire for more meaningful "extra credit" work.

Despite the high levels of cooperation and task engagement of most of the students in these classes, some differences did exist in the amount of work students completed and the amount of student participation in class activities. Records and examples of work were available for interviewed students in five of the six classes. Students were classified on their task completion rates (High: all or nearly all

assignments were completed; Moderate: a majority were completed; Low: less than the majority were completed; Never: none or almost none were completed). The results of this classification are shown in Table 5. Task completion rates are shown separately for five ability levels. All students in the high and high-average ability levels had high task completion rates. Only in the average to low ability ranges did students fail to complete assignments to any degree. However a majority of the students in these three levels of ability did complete assignments at a high rate. In the interviews, the reasons students gave for their failure to complete assignments were varied:

> It's just that I don't try to make up for it at the end of class when I'm playing.
>
> Just lazy.
>
> Sometimes I don't understand it and I do as much as I can. If I don't understand it I won't finish it. Sometimes when I leave my book at home or something like that I can't do my work so I get a zero or I do it before the bell rings in the cafeteria.
>
> I don't feel like it.
>
> I usually finish them in the easier units and the harder stuff I just sort of blow them off which I'm not supposed to do, but I do.

Voluntary oral participation by students was examined in two ways. Students were classified according to the frequency of the questions they asked (high, moderate, rarely, or never). In addition they were classified according to the degree to which they volunteered answers to questions (High: once or more per period; Moderate; Occasional; Rarely or never). Success levels of students when they participated were also coded for those who volunteered at least occasionally. Tables 6 and 7 show participation rates for students of varying levels of ability. Except for the highest ability level,

students who asked questions (academic or procedural) are distributed across all ability levels. A substantial number of students, however, rarely or never asked questions. Furthermore, the absence of questions from many of the higher ability students can be interpreted somewhat ominously: These students appear to be passively receiving information and they are content to "get along" without stretching themselves beyond the requirements of the immediate task. It also suggests that these teachers may not be providing enough challenging material, or perhaps that the instructional activities too tightly circumscribe the intellectual content of the task.

Information on the distribution of students volunteering answers in Table 7 gives a different picture of the two higher ability levels. All students in the two higher ability levels volunteered at least occasionally and most did so at moderate or high levels. More of the average and lower ability students were nonvolunteers although some of these students volunteered at high levels. Assessments of the correctness of responses indicated that most students were successful most of the time, suggesting that teachers chose volunteers to respond in part on the basis of their likelihood of answering correctly. Of course, students volunteering a response are likely to choose opportunities when they are likely to be correct.

Conclusion

The student interviews, observations, and task analyses provided much information about student conceptions of the academic task systems and what students do to complete assignments in junior high math, English, and science classes. Although most students were quite cognizant of which tasks were important, some students lacked complete

understanding and a few were greatly confused. While most of the students reported the need to complete work in order to do well, many students also recognized the need to listen carefully, study hard, and understand the content. Students credited their teachers with good explanations and with giving individuals the help they needed. Most of these students volunteered to participate in class discussions and recitations at least occasionally. They perceived that participation would help them to learn as well as improve their grades.

Students in these classes were, on the whole, very cooperative. Little misbehavior was observed, procedures and rules were usually followed without constant reminders, and most students appeared to engage in appropriate activities most of the time. This was not unexpected, of course, because classroom management capability had been a screening criterion. What was not expected, however, was the degree of student acquiescence to the academic tasks set out by the teachers.

Observers noted few instances of students actively seeking to alter tasks (e.g., complaining about assignment length or difficulty; asking for narrower or simpler assignments; claiming an inability to do the work; or asking for answers or for prompts that might effectively alter the task's complexity). In part, the students' acceptance of tasks may have been due to the teachers' having designed tasks matched to the students' abilities. However, many of the tasks were accomplished within a class period and were restricted in scope to procedural or knowledge level cognitive outcomes. Thus, students generally had little opportunity or need to alter the task system or to redefine tasks to make them easier to complete. On tasks which were more complex or potentially difficult, students were provided numerous resources and

examples to help them through. While the completion rates for these tasks were somewhat lower than for less complex tasks, there is evidence that students were at least attempting most tasks or saw them as important enough to copy or get help from another student.

The observed classes provided interesting examples of how teachers used task systems to shepherd students through the content. The use of many short, lower cognitive level tasks and activities in which teachers could easily monitor understanding and work with individuals insured that most students would stay on task and at least attempt to do the work. The end result was generally high levels of success on assignments as exhibited by student products.

Results of this study suggest that differences in participation patterns of high, middle, and lower ability students deserves further study. It may be that in this study the tasks were not challenging enough to require higher ability students to ask questions in class or to seek help from the teacher, so their participation was limited to verification of answers or to show they knew the content. Although lower ability students perceived that participation was important for their grade, they may not have perceived the benefits of participation as sufficient to overcome the fear of asking a "dumb" question or giving an incorrect answer in class discussions and recitations. Because of the task systems used by the teachers in this study, all students were called upon to participate, if not orally, then privately through contacts with the teachers.

Future research might address the degree to which students perceive differences in tasks that require different types of cognitive processes and whether such perceptions are related to task accomplishment. Also,

some consideration could be given both to the short-term goals of individual tasks and to the cumulative effect of multiple tasks. It may be that in designing activities and tasks that are able to be completed within a class period and that promote high levels of involvement and completion, teachers and students may vary greatly in the degree to which they are able to bring about an integration of these tasks into a broader comprehension of course content.

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TABLE 1

Student Perceptions of What Was Needed to Do Well

Class	N	Do Assignments/ Complete Work	Do Well/ Understand	Listen/Pay Attention	Study Hard	Good Behavior	Misc.
1	6	.33	.17	.67	.17	0	0
2	6	1.00	.17	.84	0	0	0
3	8	.63	.13	.50	.25	.38	.37
4	7	.56	.28	.42	.56	0	.28
5	9	.44	.44	.33	.22	.55	.22
6	5	.80	.20	.40	0	0	.20

Note. Numbers are proportions of interviewed students in each class who supplied an answer in the category. Proportions for each class sum to more than 1 because some students stated more than one component.

TABLE 2

Student Understanding of Task System

Teacher	N	Full	Partial	Little Or None
01	6	.50	.50	0
02	6	.50	.50	0
03	7	.14	.42	.42
04	6	.33	.50	.17
05	9	.67	.33	0
06	5	.60	.40	0

Note. Numbers are proportions of students in each class who were classified into a category.

TABLE 3

Student Perceptions of What Teachers Do to Help Them Understand

Ability Level	N	Explains Well	Answers Qs/ Helps	Repeats Info	Gives Examples	Makes Ss Take Notes	Makes It Seem Fun	Misc.
High	6	.50	.33	.50	.17	0	0	0
High Avg.	15	.73	.40	.20	.07	.13	.07	.13
Average	13	.62	.46	.23	.15	.31	.31	.08
Low Avg.	4	.75	.50	.25	.25	0	0	0
Low	2	.50	0	0	0	.50	0	0

Note. Numbers are proportions of students in each ability level who gave an answer in each category.

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TABLE 4

Students' Perceptions of Why It Is Important to Participate

Ability Level	N	Grades	Learn to Express Oneself	Learn/ Understand	Get Help from Teacher	Show Teacher You Know Ans.	Fun
High	2	.50	0	1.00	0	.50	0
High Avg.	13	.54	.08	.54	.23	.08	0
Average	11	.45	.09	.64	.09	.09	.18
Low Avg.	3	1.00	0	.33	.33	0	0
Low	1	1.00	0	1.00	0	0	0

Note. Numbers are proportions of students in each ability level who gave an answer in the category. N's in Tables 3-7 differ because of missing data or unclassifiable responses.

Table 5

Frequency of Task Completion for Different Ability Levels (n = 33)

Students' Ability Level	Completion Rates			
	High	Moderate	Low	Never
High	4	0	0	0
High Average	12	0	0	0
Average	7	1	3	0
Low Average	2	0	2	0
Low	1	0	0	1

Table 6

Frequency of Questions

Students' Ability Level	Frequency of Questions		
	High	Moderate	Rarely or Never
High	0	0	4
High Average	3	3	7
Average	3	1	5
Low Average	1	1	2
Low	1	0	1

Table 7

Frequency of Students' Volunteering Answers

Students' Ability Level	Participation Rates			
	High	Moderate	Occasional	Rarely Or Never
High	1	2	1	0
High Average	6	4	2	0
Average	2	1	1	7
Low Average	2	0	1	1
Low	0	0	1	1